WHAT IS CLAIMED IS:

1. A lighting circuit for lighting a vehicular lamp including a plurality of light-emitting diodes, comprising:

a selection unit operable to select the number of light-emitting diodes to be connected in series in said vehicular lamp based on an instruction from an outside;

a switching regulator operable to apply an output voltage based on a power-supply voltage output by an external DC power supply to said selected number of light-emitting diodes connected in series, to supply a supply current to said selected number of light-emitting diodes; and

an output controlling unit operable to control said output voltage of said switching regulator based on said supply current.

2. A lighting circuit as claimed in claim 1, wherein said vehicular lamp includes two light source blocks connected in series each of which includes one or more light-emitting diodes,

said selection unit switches whether one of said two light source blocks is selected or both of said two light source blocks are selected, to select said number of said light-emitting diodes to be connected in series in said vehicular lamp,

said lighting circuit further comprises a switch that is connected in parallel to one of said two light source blocks while being connected in series with another one of said two light source blocks,

said selection unit makes said switch conductive in a case where said one of said two light source blocks is not selected, and

said switching regulator outputs said supply current having approximately the same magnitude when said one of said

two light source blocks is selected as that when said another one of said two light source blocks is selected.

3. A lighting circuit as claimed in claim 1, wherein said vehicular lamp includes two light source blocks connected in parallel,

each of said two light source blocks includes light-emitting diodes connected in series, a number of said light-emitting diodes in one of said two light source blocks being different from that in another one of said two light source blocks, and

said selection unit selects a number of light-emitting diodes to be connected in series in said vehicular lamp by switching which one of said two light source blocks is selected.

4. A lighting circuit as claimed in claim 1, wherein the number of said light-emitting diodes connected in series in said one of said two light source blocks is smaller than the number of said light-emitting diodes connected in series in said another one of said two light source blocks,

said lighting circuit further includes a switch that is connected in series with said one of said two light source blocks while being connected in parallel to said another one of said two light source blocks, and

said selection unit makes said switch conductive in a case of selecting said one of said two light source blocks.

5. A lighting circuit for lighting a vehicular lamp including a light-emitting diode, comprising:

a switching regulator including a transformer and a switching device, wherein said transformer includes a primary

coil operable to receive a power-supply current output by an external DC power supply and a secondary coil operable to supply a supply current to said light-emitting diode by applying an output voltage higher than a power-supply voltage to said light-emitting diode based on said power-supply current, and wherein said switching device is connected to said primary coil of said transformer in series and switches whether or not said power-supply current is supplied to said primary coil; and

an output controlling unit operable to control a duration ratio of a period in which said switching device is on or off based on said supply current, to control said output voltage of said secondary coil.